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During the sledge journeys the ice was so ragged that it was only possible to advance a mile a day.

During the winter rich collections in natural history were made and many valuable scientific observations were taken. Excellent coal was found near the place where the Discovery wintered.

A member of the expedition telegraphs to the *Daily News* that the northernmost land reached was in latitude 83° 07′. After that there was ice. The point farthest west reached was in longitude 85°. Lady Franklin's Straits are really a bay. Petermann Fiord was closed by a glacier. The northernmost point of Greenland seen was in latitude 82° 57′.

THE NEW ROUTE TO CHINA. — The following details are given in the daily papers of the remarkable discovery of Professor Nordenskiold, the Swedish explorer, already reported by telegraph: —

"He reports having encountered no obstacles, and considers the way now quite open from Europe to China *via* the northern passage and the valley of the Yenisei River, by which steam communication is obtained across Siberia and almost to the frontiers of China. An immense unmeasured area of extremely fertile and valuable soil was found in this region, all of which is accessible for immediate cultivation.

"The commercial value and the important results to flow from this demonstration of the feasibility of a northeastern passage to Siberia and China can hardly be foreseen or overestimated. Nordenskiold, whose letter is unfortunately brief, writes that he has also obtained results of great interest to science. Dredging and scientific observations were constantly carried on during the entire voyage. Large accessions have been made to the previously obtained collections from this heretofore unknown region. One of the unexpectedly favorable phenomena of the passage, the professor reports, was that the water was uniformly found to be surprisingly warm."

MICROSCOPY.[1]

VAN DER WEYDE'S OBLIQUE ILLUMINATOR. — At the Indianapolis meeting of the American Association for the Advancement of Science, in August, 1871, P. H. Van der Weyde, of New York, described a contrivance, believed to be new, for oblique illumination of transparent objects. It was designed chiefly to facilitate the resolution of lined or dotted objects, and consisted of a plane mirror lying beneath the object-slide and parallel to it, from which mirror light, condensed upon it from above by means of a bull's-eye condenser would be reflected back at the same angle through the object and into the objective. These illuminators were shown in successful operation at the meeting, working best with moderately high powers, and were freely distributed among the members present. They were briefly described in the NATURALIST for

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[1] Conducted by DR. R. H. WARD, Troy, N. Y.

September, 1871, being there estimated as "a little expedient of great practical convenience." Ever since that time the present writer, among others, has used them habitually, shown them freely, and not unfrequently given them away. The mirror may be either of silvered glass or of polished metal. In some cases the object-slide may lie directly upon it while it rests upon the stage; but frequently the object-slide is best elevated slightly above it. The mirror is most conveniently made of the size of a slide (3x1) and furnished with glass strips at the ends to support the slide at any required height; but it may be made smaller, say one inch square or round, and sunken in a brass or wooden stage-plate, or for stands having a sub-stage of any kind it may be made of suitable size and supported from the sub-stage and adjusted for height in the same manner as the achromatic condenser. It has the advantage of great ease of manipulation and applicability to any stand, and the drawback of being liable to be interfered with by the presence on the slide of such obstructions as paper covers or opaque cells or rings of varnish. Within a few months past it has been brought forward by Rev. John Bramhall, of Lynn, England; its previous use and publication having either escaped the notice or slipped from the memory of himself as well as of the distinguished microscopist who has indorsed it and proposed to name it after him.

THE RICHMOND FOSSIL EARTH. — The recent excavation of a tunnel by the Chesapeake and Ohio Railroad Company, through that part of the city of Richmond, Va., known as Church Hill, has intersected this famous deposit for a distance of three fourths of a mile, and afforded rare facilities for study and the collection of material. C. L. Peticolas of Richmond, who has given great attention to the work of obtaining this interesting material and preparing it for use, describes the stratum as from forty to sixty feet thick, and situated, nearly level, about fifteen to twenty-five feet below the level of the city and one hundred feet above tide water. Before exposure to the air it is tough and hard, having the color and solidity of bituminous coal and requiring to be removed from the tunnel by means of blasting; but after exposure for some time it crumbles to a fine powder of almost snowy whiteness, consisting in general of about one half fine pure clay, one fourth fine white sand, and one fourth fossil diatoms interspersed with many sponge spicules and a few Polycystina. The abundance and variety of the fossil forms vary greatly in different parts of the stratum, the lower levels being the richer.

MICRO-PHOTOGRAPHS IN HISTOLOGY. — The monthly series of illustrations of normal and pathological histology, by Dr. Carl Seiler in connection with Drs. J. G. Hunt and J. G. Richardson, has advanced sufficiently far to indicate its character but not its scope. The numbers contain four plates each, representing microscopical views of tissues, mostly human, printed by a photo-mechanical process that gives the appearances under the lens with the rigid candor of ordinary photography. Of the selection of objects it is impossible to judge from a few numbers. The text is a slightly amplified description of the plates. The work will be a luxury to those who are not practiced in the use of the microscope, and a convenience, as an excellent memorandum, to those who are.

VOLATILIZED GOLD. — Mr. John Hewston, Jr., of San Francisco, Cal., has prepared beautiful mounts of gold obtained from the condensing chambers connected with the smelting furnaces. The gold is in the state of brilliant globules of pure metal, and suggests the loss that must be continually taking place during the smelting process.

DIATOMS AS FERTILIZERS. — The miserable attempt to establish the presence of diatoms in the tissues of plants and their consequent (?) importance to the plants as food, which inadvertently was printed in the *American Journal of Science and Arts* for June, 1876, seems not to have been intended as a hoax, after all. It looked like such a capital burlesque upon the follies of scientific puffing of commercial articles that it was almost impossible to consider it as intended for anything else. It has been exposed sufficiently long, however, notably in the *American Journal of Microscopy*, to give ample time for its real design to come out, and in absence of proof to the contrary it must be regarded as one of the most preposterous advertising tricks of the day. In the face of its absurdities it is hardly worth while seriously to discuss the still doubtful value of infusorial earths as fertilizers, or their probably injurious effects upon some kinds of soil.

EXCHANGES. — Julien Deby, C. E., of Brussels, is engaged in studying the fossil diatoms of Belgium, and would be glad to exchange Belgian material of this class for specimens from American deposits. Also, correspondence desired in regard to exchange of microscopical specimens and publications. Mr. Deby may be addressed, care of the editor of this department, 53 Fourth Street, Troy, N. Y.

Slides of gold-bearing quartz from California, for good mounted objects; polarizing preferred. S. R. Hatch, Milford, Mass.

SCIENTIFIC NEWS.

— So alarming and wide-spread have been the ravages of the locusts in the trans-Mississippi States and Territories, during the last few years, that there is a general demand by the people for united state and national action in investigating the habits and devising means for staying the ravages of the migratory locust of the West. To this end, and in accordance with a call issued a few weeks ago by Governor Pillsbury, of Minnesota, a meeting of the governors of the Western States and Territories took place in Omaha, Nebraska, October 25th, to devise means to rid the country of the grasshopper pests. The States were represented